IISC GPU BOOTCAMP

2nd – 3rd May 2019

GPU Bootcamp is an exciting and unique way for scientists and researchers to learn the skills needed to **start quickly accelerating codes** on GPUs.

This two-day event will introduce you to available GPU libraries, programming models, and platforms where you will learn the basics of GPU programming.

You will also **experience extensive hands-on collaboration based on a real-life code** using the OpenACC programming model, learn CUDA fundamentals and **discuss porting strategies of in-house codes**.

GPU Bootcamp is organized collaboratively by OpenACC.org, Amazon Web Services, NVIDIA, and Linux Academy.

SCHEDULE

Day 1: Learn Fundamentals

- Introduction to Heterogeneous Computing
  - Why Hybrid Architecture?
  - Heterogeneous Programming Models
- CPU vs. GPU Architecture
- Ways to GPGPU Programming
  - Libraries vs. Directive-based vs. Languages
- Hands-on Directive-based Programming
  - Introduction to OpenACC
  - Directive-based Programming: Hands-on labs
- Hands-on CUDA Languages
  - Introduction to CUDA C API
  - Introduction to CUDA Memory Hierarchy
  - CUDA Programming: Hands-on lab

Day 2: Application Porting

- Mini-Application
  - Get ready for fun competition
  - Hands-on Session: Real-world Mini-application
- IISC In-House Code porting *
  - Discuss Strategy for Porting In-house Applications
  - Porting codes under Guidance of Mentor

* In-House Code porting is optional and only for participants who would like to get guidance on porting and optimize own codes

TIMELINE

11 April	Submission open for participations.
19 April	Registration closes
22 April	Participants selected for the In-house code porting on the second day afternoon will receive notification
2 May	Day 1 Bootcamp: Fundamentals of GPU training
3 May	Day 2: Application porting and competition